MULTICOLOR STARING SENSOR SYSTEM

ABSTRACT OF THE DISCLOSURE

A sensor system for viewing the light energy of a scene has an imaging detector which converts incident light energy into an electrical signal. Two colors are separately imaged by the detector in two imaging regions. The imaging system for each color includes a color filter positioned between the scene and the respective region of the detector, an optical train that focuses filtered color scene energy, and an optical fiber bundle having an input end that receives the respective color scene energy from the optical train and an output end that directs the color scene energy onto the respective region of the detector using a nonlinear mapping. The optical fiber bundle is formed of a plurality of optical fibers wherein each of the optical fibers has an input shape and size at its input end and an output shape and size at its output end. The output shape and size are different from the input shape and size. The sensor system further includes an electronic device operable to read the electrical signal of the detector, and image-processing electronics.